

Habitats and Adaptations

3-2 The student will demonstrate an understanding of the structures, characteristics, and adaptations of organisms that allow them to function and survive within their habitats. (Life Science)

3.2.5 Summarize the organization of simple food chains (including the roles of producers, consumers, and decomposers).

Taxonomy level: 2.4-B Understand Conceptual Knowledge

Previous/Future knowledge: Students have been introduced to energy in 2nd grade (2-2.1) as it relates to the food that plants and animals need to survive. In 5th grade (5-2.4), students will develop a more in-depth understanding of roles that organisms serve as they interact and depend on one another using food chains and food webs.

It is essential for students to know that all organisms need energy to survive. Energy gives the organism its ability to move and do the things it needs to survive. In most habitats, the Sun provides the initial energy which is passed from plants to animals.

- When scientists describe the way that energy is passed from one organism to another they use a model called a *food chain*.
- A food chain uses arrows to show the direction in which energy is passed and usually contains no more than six organisms.

Food chains have three types of organisms. The role of an organism can be described by how it obtains its energy.

Producers

- Any green plant, which uses sunlight to make food for energy.
- Producers are the first organisms listed in a food chain, understanding that the Sun provides the initial energy for the plants.

Consumers

- An organism (usually an animal) that obtains its energy by eating other organisms (plants and/or animals).

Decomposers

- An organism (for example worms, mold, or mushrooms) that obtains its energy by feeding on and breaking down dead plants and animals.
- Decomposers are often not listed in a food chain even though they are always the final link.

It is not essential for students to know specific types of consumers (herbivores, carnivores, omnivores) or to understand the concept of food webs.

Assessment Guidelines:

The objective of this indicator is to *summarize* the organization of simple food chains; therefore, the primary focus of assessment should be to generalize information about the roles of organisms in food chains. However, appropriate assessments should also require students to *identify* the role of an organism based its location in the food chain; *recall* how an organism obtains its energy in the food chain; or *illustrate* parts of a food chain using words, pictures, or diagrams.